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APPLICANT : MITSUBISHI HEAVY IND LTD;

INVENTOR : MIHASHI AKIRA;

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TITLE : NI-BASE ALLOY POWDER

ABSTRACT : PURPOSE: To provide the Ni-base alloy powder from which excellent high-temp. heat resistant parts can be produced by a powder metallurgical method by slightly increasing the content of Cr, adding W, Mo, Al, etc., with favorable balance to the powder and adding Mg and Ca in a specific ratio thereto.

CONSTITUTION: This Ni-base alloy powder contains, by wt %, 13.1-15.0 Cr, 8.5-10.5 Ca, 1.0-3.5 Ni, 3.5-4.5 W, 3.0-5.5 Ta, 3.5-4.5 Al, 2.2-3.2 Ti, 0.01-0.09 C, 0.005-0.025 B, 0.01-0.10 Zr and 1-100ppm Mg and/or Ca and the balance Ni. Further, 0.5-1.5, by wt %, Hf and/or ≤1 kinds of 0.05-0.5Pt, Rh and Re, respectively may be incorporated into this alloy. The parts produced by the powder metallurgical method using this alloy powder is suppressed in the adverse influence of impurities, such as oxygen and sulfur, are highly resistant to oxidation and corrosion, do not cause defects, such as cracking, at the time of casting and are usable as the materials for gas turbine parts using lowgrade fuel, such as heavy oil.

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